DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 99.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-018275
Date Inspected: 23-Nov-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC)

OSM Arrival Time: 700
OSM Departure Time: 1900
Location: Shanghai, China

CWI Name: N/A

Inspected CWI report:	☐ Yes	☐ No	☑ N/A	**Rod Oven in Use:**	☐ Yes	☐ No	☑ N/A
Electrode to specification:	☐ Yes	☐ No	☑ N/A	**Weld Procedures Followed:**	☐ Yes	☐ No	☑ N/A
Qualified Welders:	☐ Yes	☐ No	☑ N/A	**Verified Joint Fit-up:**	☐ Yes	☐ No	☑ N/A
Approved Drawings:	☐ Yes	☐ No	☑ N/A	**Approved WPS:**	☐ Yes	☐ No	☑ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

CWI Present: ☐ Yes ☑ No

Bridge No: 34-0006
Component: OBG Trial Assembly

Summary of Items Observed:

On this date Caltrans OSM Quality Assurance (QA) Inspector Mr. S. Manjunath Math was present during the time noted above for observations relative to the work being performed.

This QA Inspector randomly observed the following work in progress:

Orthotropic Box Girder (OBG) at Trial Assembly Areas

Incident Report generated at Segment 11EW (Longitudinal Diaphragm)

This Quality Assurance (QA) Inspector wrote an Incident Report for welding horizontal stiffener at web of Longitudinal Diaphragm (LD) to the Floor Beam at Segment 11EW at PP 107 at work point W3 without pre-heating and observed pre-heat temperature does not meet the requirements as laid down by New Weld Procedure (Rager/McQuaid). Please reference the Incident Report # 04-0120F4_TL-15_B278_11-23-10_11EW_No Preheat_LD_Stiffener_W3_Panel Point_PP107 dated November 23, 2010 for further detail.

Please reference the pictures attached for more comprehensive details.

Segment 11DE (Side Panel T-Ribs at FL3 location)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the T-Rib to T-Rib at Side

Panel Cross Beam side at Panel Points (PP) 104, PP 105 and PP 106 for Segment 11DE. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00557 dated November 23, 2010. The QA inspector observed reinforced splice plates are installed at following locations.

At PP 104: 11th T-Rib, 12th T-Rib, 13th T-Rib, 14th T-Rib, 17th T-Rib and 18th T-Rib..

At PP 105: 19th T-Rib.

At PP 106: 9th T-Rib, 10th T-Rib, 11th T-Rib, 12th T-Rib, 13th T-Rib, 14th T-Rib, 15th T-Rib, 16th T-Rib, 17th T-Rib and 18th T-Rib.

Note: T-Ribs numbering reference taken from Work Point E4 towards E6.

The bolt sizes used were M22 x 65 RC Lot # DHGM220116 and the final torque value established was 380 N-m.

The bolt sizes used were M22 x 80 RC Lot # DHGM220094 and the final torque value established was 470 N-m.

The Manual Torque wrench used was Serial No. XO2-666.

Segment 11DE (Side Panel T-Ribs at FL3)

This QA Inspector performed Dimension Control Inspection on the side panel T-Rib at FL3 areas after bolting for the Segment 11DE at Panel Points (PP) 104, PP 105 and PP 106 at the following locations:

Work Point E4 towards Work Point E6 (Side Panel Cross Beam Side) total 19 T-Ribs.

The QA Inspector measured the Vertical Offset using 1(One) Meter Straight Edge at each Panel Points.

The measurements were recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector and Engineer for review and disposition.

Segment 11CW to Segment 11DW (Skin Flatness)

This QA Inspector performed Joint Inspection along with Caltrans QA Inspector Mr. Murugan Manikandan to check the skin flatness between Segment 11CW to Segment 11DW between Panel Points (PP) 103 and PP 104 at the following locations:

The skin flatness was measured on North side (Counter Weight Side at B1 and B2 locations) and South side (Cross Beam side at B3 and B4 locations) at 100mm from the weld connecting Bottom Panel to Side Panel using 5000mm string line to verify overall flatness. The straight edges of 600mm and 630 mm of length were also used to measure the localized flatness.

The skin flatness was measured on North side (Counter Weight side at T1 location) and South side (Cross Beam

side at T2 location) at 100mm from the weld connecting Deck Panel to Edge Panel using 5000mm string line to verify overall flatness. The straight edges of 600mm and 630 mm length were also used to measure the localized flatness.

The measurements were recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector and Engineer for review and disposition.

Cross Beam (CB) # 15

This QA Inspector performed Dimension Control Inspection along with Caltrans QA Inspector for measuring offset between the stiffeners at floor beam (FL3) extension at Segment 11BE and Segment 11BW to Cross Beam # 15 stiffeners at bottom panel, vertical web plate and deck plate at following locations:

At Panel Point (PP) 98, Segment 11BW offset measurement performed between floor beam stiffeners to west side Vertical Web Plate stiffeners of cross beam # 15 total 13 stiffeners.

At Panel Point (PP) 99, Segment 11BW offset measurement performed between floor beam stiffeners to centre Vertical Web Plate stiffeners of cross beam # 15, total 13 stiffeners.

At Panel Point (PP) 100, Segment 11BW offset measurement performed between floor beam stiffeners to east side Vertical Web Plate stiffeners of cross beam # 15, total 13 stiffeners.

Between Panel Points (PP) 98 to PP 99, Segment 11BW offset measurement performed between deck panel stiffeners to deck panel stiffeners of cross beam # 15, total 11 stiffeners.

Between Panel Points (PP) 99 to PP 100, Segment 11BW offset measurement performed between deck panel stiffeners to deck panel stiffener of cross beam # 15, total 11 stiffeners.

Between Panel Points (PP) 98 to PP 99, Segment 11BW offset measurement performed between bottom panel stiffeners to bottom panel stiffeners of cross beam # 15, total 5 stiffeners.

Between Panel Points (PP) 99 to PP 100, Segment 11BW offset measurement performed between bottom panel stiffeners to bottom panel stiffener of cross beam # 15, total 5 stiffeners.

At Panel Point (PP) 98, Segment 11BE offset measurement performed between floor beam stiffeners to west side Vertical Web Plate stiffeners of cross beam # 15 total 13 stiffeners.

At Panel Point (PP) 99, Segment 11BE offset measurement performed between floor beam stiffeners to centre Vertical Web Plate stiffeners of cross beam # 15, total 13 stiffeners.

At Panel Point (PP) 100, Segment 11BE offset measurement performed between floor beam stiffeners to east side Vertical Web Plate stiffeners of cross beam # 15, total 13 stiffeners.

Between Panel Points (PP) 98 to PP 99, Segment 11BE offset measurement performed between deck panel

stiffeners to deck panel stiffeners of cross beam # 15, total 11 stiffeners.

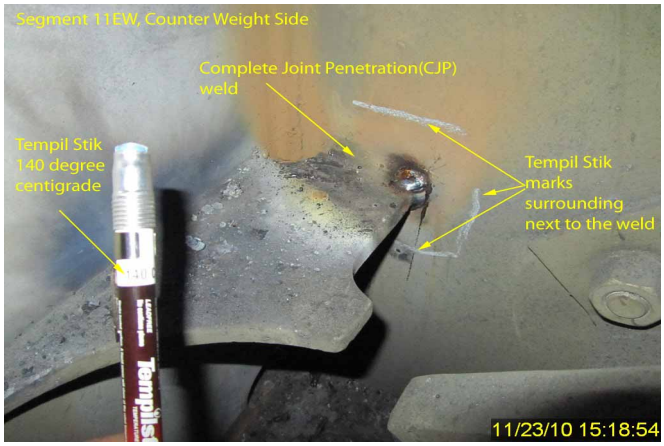
Between Panel Points (PP) 99 to PP 100, Segment 11BE offset measurement performed between deck panel stiffeners to deck panel stiffener of cross beam # 15, total 11 stiffeners.

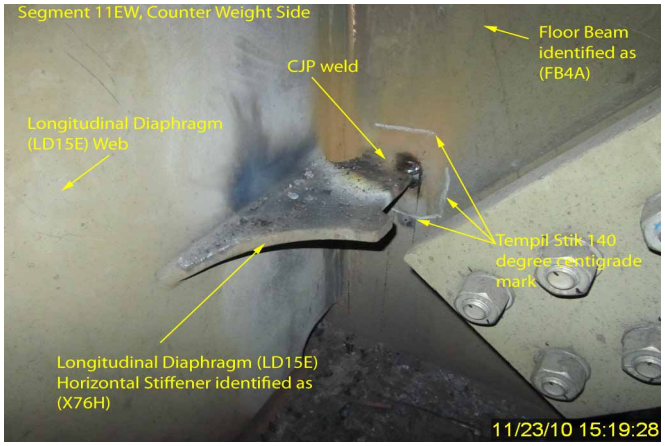
Between Panel Points (PP) 98 to PP 99, Segment 11BE offset measurement performed between bottom panel stiffeners to bottom panel stiffeners of cross beam # 15, total 5 stiffeners.

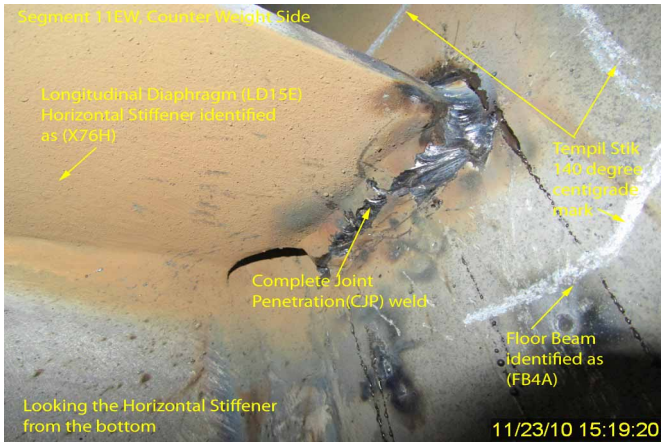
Between Panel Points (PP) 99 to PP 100, Segment 11BE offset measurement performed between bottom panel stiffeners to bottom panel stiffener of cross beam # 15, total 5 stiffeners.

The measurements were recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector and Engineer for review and disposition.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.







Summary of Conversations:
No relevant conversations were reported on this date.
Comments

WELDING INSPECTION REPORT

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This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang 150000422372, who represents the Office of Structural Materials for your project.

Inspected By:	Math,Manjunath	Quality Assurance Inspector
Reviewed By:	Dsouza,Christopher	QA Reviewer